WHAT IS CLAIMED IS:

1. A digital baseband modulation apparatus, comprising:

a spread modulation part for complex spreading an I component signal and a Q component signal of a transmit signal by using spreading code for I axis and spreading code for Q axis so as to output an output signal comprising an output I component signal and an output Q component signal; and

an amplitude conversion part for decreasing the amplitude component of the output signal to the half when the output signal is output on the I axis or on the Q axis.

2. The digital baseband modulation apparatus as claimed in claim 1, wherein the spread modulation part comprises a phase rotation part for rotating the phase angle of the output signal according to a control from the outside.

3. A digital baseband demodulation apparatus, comprising:

a part for quadrature detecting an I component signal and a Q component signal from a received signal;

an amplitude reverse conversion part for

doubling the amplitude component of the received signal when the received signal is on the I axis or on the Q axis; and

a despread demodulation part for complex despreading the I component signal and the Q component signal by using spreading code for I axis and spreading code for Q axis to obtain a complex despread signal.

4. The digital baseband demodulation apparatus as claimed in claim 3, the despread demodulation part further comprising a phase rotation part for rotating the phase of the complex despread signal according to a control from the outside.

5. A digital baseband modulation apparatus, comprising a plurality of pairs of a spread modulation part and an amplitude conversion part, each pair receiving a transmit signal, wherein

the spread modulation part complex spreads an I component signal and a Q component signal of the transmit signal by using spreading code for I axis and spreading code for Q axis so as to output an output signal comprising an output I component signal and an output Q component signal; and

the amplitude conversion part decreases the amplitude component of the output signal to the half when the output signal is output on the I axis or on the Q axis;

the digital baseband modulation apparatus

further comprising:

a duplexing part for duplexing output signals output from the amplitude conversion parts by linearly adding the output signals;

a separation part for separating a received high speed channel signal into a plurality of separated signals to be input into the spread modulation parts; and

a switch part for switching between the separated signals and received low speed channel signals to input the separated signals or the received low speed channel signals into the spread modulation parts.

6. The digital baseband modulation apparatus as claimed in claim 5, wherein the duplexing part adds an offset value to each I component signal when the value of the I component signal is 0 and adds an offset value to each Q component signal when the value of the Q component signal is 0.

7. A digital baseband demodulation apparatus, comprising:

a part for quadrature detecting an I component signal and a Q component signal from a duplexed received signal;

an amplitude reverse conversion part for doubling the amplitude component of the duplexed received signal when the duplexed received signal is on the I axis or on the Q axis;

a part for separating the I component signal and the Q component signal output from the amplitude reverse conversion part into separated I component signals and separated Q component signals; and

despread demodulation parts for receiving each pair of the separated I component signals and separated Q component signals, each despread demodulation part complex despreading the pair by using spreading code for I axis and spreading code for Q axis.